



THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant Wu, Hsin-Kun Art Unit: 1722

Series No 10/634,675 Examiner: Thu Khanh T. Nguyen

Filed 08/06/2003

Title **Nylon gripper elements of zippers and threaded rods
for shaping the nylon gripper elements**

Mail Stop Amendment

Honorable Assistant Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Responsive to the Official Action date 09 / 08 / 2005, since the Examiner mentioned that merely changing the shape or form without changing its function is unpatentable, the applicant would like to explain more clearly about the improved mechanism of the present invention.

First of all, the present invention is restricted to Nylon gripper elements, for example, ammonolysis process for chemically recycling both

nylon 6 and nylon 66 can recover the costly monomer; the present invention is to provide a product which can be recycled.

Secondly, please see the published specification of US 6,302,676, in column 6 lines 62~65: 'a screw shaft (22a) but lacks a screw portion at an area corresponding to a disposing position of the upper leg portion forming portion (24) such that the screw (22) does not interfere with the leg portion forming portion (24).' Which is different from the present invention, as the office action instructed: 'the tips (23a, 25a) protrude in the recess in between the threads of the threaded rods', but it still has to avoid the interference as cited above. Whereas, in the present invention, please see the published specification paragraph [0023]: 'the tips are formed as a single straight bank arranged on the recesses of the threads of the threaded rod (12) and is in the middle section (B)'.

Thirdly, please see the specification of the present invention paragraph [0024]: 'a top of each tip (13) is a concave slot (131) which causes that the concave portion (72) of the nylon gripper element (7) has a cambered shape without any sharp edge.' For heated and soft nylon gripper elements to form a concaved upper leg portion, the present invention is likely to form a 'bathtub' in contrast with the 'egg', 'tennis racket' and 'step' shapes described in the cited US 6,302,676; even the bottom portion of the 'bathtub' is not flat or inclined to a narrowed margin (please see Figs. 3,4 and 5 of the present invention), which is concaved so as to

receive the sewing yarn easily and safely than cited case. Because the present invention is to provide a "concaved" upper leg portion, which is suitable for receiving the sewing yarn clustered and embedded in the central concaved portion on top of the upper leg portion, whereas in the cited US 6,302,676, bending and forming of upper leg portions to have steps by pressing and deforming, sewing yarn exposed on the inclined step side to the narrowed margin.

Fourthly, In the present invention, please see the original specification page 3, line 24: 'the convex portion (73) will extrude the wire (1) toward two sides', which is corresponding to the 'concave' portion formed as an upper leg portion, further the density of the central wire is higher than the prior arts.

Fifthly, please see the last four lines in published specification paragraph [0023]: 'Each of the threaded rods (11,12) is formed with driving nylon gripper element (14) for driving by gears (not shown) so as to rotate the threaded rods (11,12).' That is, the present invention is different from the cited US 6,302,676, the present invention only has two 'screws', without a mandrel sandwiched between them, but the gripper elements (14) is illustrated in Fig. 7 of the present invention, which is rotated in the wide direction, to mesh with a gear to rotate and make the tips formed on the short rod (or a screw in the cited US 6,302,676, but it has neither longer nor shorter screws) clamping the nylon gripper elements

(7), each nylon gripper element (7) is formed with concave portion (72) and convex portion (73). (Please see the original specification of the present invention in page 4 lines 19~22) Even the long threaded rod (11) in the present invention is suitable for guiding the nylon wires to wind upwards.

As cited above, the present invention is different from the cited US 6,302,676. It is also different from the cited US 4,325,184 col.2, lines 44-49, because see the Fig. 7 of the present invention, the two threaded rods are meshed with each other by driving nylon gripper elements (14), which rotate in wide direction and driven by a gear (not shown) can draw the nylon wire wind upward to clamp to form concaved upper leg portion at the same time. Either longer rod or shorter rod, and a straight bank of tips formed on the middle section on the short rod are not seen in the cited US 4,325,184.

Beside, the applicant found that the original specification typed in errors, such as in the page 3, line 24, 'toward to sides', it should be corrected as 'toward two sides', and in the page 5 line 5, 'without nay sharp edge', it should be corrected as 'without any sharp edge'.

Because the claims keep the original number, the applicant has to rewrite the amended claims as requested. Please amend the present invention as following: